

outlet port to discharge said fluid being measured;

a drive unit for driving and resonating one of said flow tubes with another of said flow tubes at mutually opposite phases; and

10 ~~15~~ a pair of oscillation sensors installed along said two parallel flow tubes curved into arch shape at locations horizontally symmetrical with respect to an installation location of said drive unit for sensing a phase difference proportional to a Coriolis force, said two flow tubes being connected to said entry-side manifold and to said exit-side manifold at respective said joint ends and said two flow tubes being formed into the arch shape that is bent in only one direction, said entry-side manifold having two manifold outlets smoothly bent, from an inlet of said entry-side manifold to a connection to said flow tubes at said joint ends, at a predetermined rise angle that is the same as the angle of the said joint ends, said exit-side manifold having two manifold inlets smoothly bent, from an outlet of said exit-side manifold to a connection to said flow tubes at said joint ends, at a predetermined rise angle that is the same as the angle of the said joint ends.

15

20

Claim 3 has not been changed by this amendment as remains as follows:

3. A Coriolis mass flow meter as set forth in claim 1 wherein:

a pressure-resistant case is arranged around said two flow tubes;

said entry-side and exit-side manifolds have a pair of integrally formed disc-shaped flanges, to which both ends of said pressure-resistant case are fixedly fitted;

25

the cross-sectional shape of said pressure-resistant case being an oval shape with the

major axis oriented in the curved direction of said flow tubes, with the length of said major axis smoothly and gradually reduced from the axial central part thereof to both ends thereof into a substantially circular shape over a predetermined length near both ends.

Claim 5 has not been changed by this amendment and remains as follows:

5. A Coriolis mass flow meter comprising:

two flow tubes each having a curve and each flow tube having first and second joint ends, each curve of said flow tubes lying in a respective plane, said planes of said curves of said flow tubes being arranged substantially parallel, said each curve being in only one direction and forming an arch extending fully from a respective said first joint end to a respective second joint end;

an entry-side manifold with an inlet port and two outlet ports, said two outlet ports being connected to said first joint ends of said two flow tubes and dividing an entry passage from said inlet port into said two flow tubes, said entry passages having a smooth curve from said inlet port to said outlet ports, an axial direction of said entry passage at said outlet port being in a substantially same direction as an axial direction of a respective said flow tube at said respective first joint end of said respective flow tube;

an exit-side manifold with an outlet port and two inlet ports, said inlet ports being connected to said second joint ends of said two flow tubes and joining exit passages from said inlet ports to said outlet port, each of said exit passages having a smooth curve from respective said inlet ports to said outlet port, an axial direction of said exit passages at said inlet ports

being in a substantially same direction as an axial direction of a respective said flow tube at a respective second joint end of said respective flow tube;

a drive unit for driving and resonating one of said flow tubes with respect to another of said flow tubes at mutually opposite phases;

a pair of oscillation sensors installed at locations symmetrical with respect to said drive unit for sensing a phase difference proportional to a Coriolis force of fluid in said two flow tubes.

Claim 6 has not been amended by this amendment and remains as follows:

6. A meter in accordance with claim 5, wherein:

said axial directions of said first joint ends is non-parallel with said axial directions of said second joint ends.

Claim 7 has not been amended by this amendment and remains as follows:

7. A meter in accordance with claim 5, wherein:

said axial directions of said first joint ends is angularly spaced from said axial directions of said second joint ends.

Claim 8 has not been amended by this amendment and remains as follows:

8. A meter in accordance with claim 5, further comprising:

a sealed pressure case surrounding said two flow tubes, said pressure case having a

cylindrical shape with ends of said cylindrical shape closed by end plates and forming corner
with said cylindrical shape, said entry and exit manifolds being arranged in said corners of said
5 case.

Claim 9 has not been amended by this amendment and remains as follows:

9. A meter in accordance with claim 8, wherein:

said end plates are flanges of said entry and exit manifolds;

a radial cross section of said pressure case has an oval shape with a major axis of said
oval shape being oriented in a curved direction of said flow tubes, a length of said major axis
5 being a maximum at a central portion of said pressure case and diminishing toward said end
of said cylindrical shape to have said cross section of said pressure case change to a
substantially circular shape at said ends of said cylindrical shape.

Claim 10 has not been amended by this amendment and remains as follows:

10. A meter in accordance with claim 8, further comprising:

a first temperature sensor arranged on said pressure case and measurable of
temperatures effecting a distance between said joint ends of said flow tubes;

a second temperature sensor arranged on one of said flow tubes and said manifolds, said
5 second temperature sensor being measurable of temperatures effecting rigidity of said flow
tubes.

and C3

Claim 11 has not been amended by this amendment and remains as follows:

11. A meter in accordance with claim 5, wherein:

said each curve is continuous from said first joint end to said second joint end.

REMARKS

Claims 1-11 are in the case and are presented for reconsideration. By this Amendment Applicant has made minor changes to Claim 1. It is Applicant's position that a review of marked up copy of Claim 1 will show that no new issues have been added. Particularly Applicant has highlighted the same features but with a different claim format. It is Applicant's position that the amendment reduces issues on appeal by presenting the claim structure in better format and to better present issues on appeal better. However, should the Examiner determine that some issue has been presented which was not already considered, the Examiner is requested to telephone Applicant's attorney such that the best claims can be presented after final rejection.

The Examiner has rejected claims 1-11 as being obvious based on the teachings of Cage et al. (U.S. 4,876,898) in view of Lew et al. (U.S. 5,663,509). The Examiner states that Cage et al. teaches the claimed invention but does not disclose particular features. It is Applicant's position that Cage et al. discloses features of a U-shaped Coriolis flow meter and does not teach the combination claimed. Accordingly, Applicant disagrees with the characterization that Cage et al. teaches the claimed invention.

It is further Applicant's position that the prior art as a whole including the Cage et al.